

**CLAIMS**

I Claim:

1. A method for providing data to passengers on an aircraft comprising the steps of:
  - attaching an airborne server to a first digital network;
  - directing data from the airborne server to the first digital network;
  - converting the first digital network to a radio frequency distribution medium;
  - converting the radio frequency distribution medium to one or more secondary digital networks;
  - attaching an aircraft integral device to one of the secondary digital networks.
2. The method of Claim 1 further comprising the steps of:
  - allowing passengers to attach personal electronic devices to one of the secondary digital networks.
3. The method of Claim 2 further comprising the steps of:
  - receiving network requests from the personal electronic devices; and
  - selectively redirecting network requests to the airborne server.
4. The method of Claim 3 wherein the step of selectively redirecting network requests to the airborne server comprises the steps of:
  - examining the destination address comprising the network request;
  - routing the network request to the airborne server if the personal electronic device has not registered for off-aircraft services; and
  - routing the network request to a communications unit if the personal electronic device has registered for off-aircraft service.

5. The method of Claim 1 further comprising the steps of:  
storing entertainment content on the airborne server;  
directing the entertainment content to the first digital network;  
receiving the entertainment content in aircraft integral devices or personal electronic devices attached to one of the secondary digital networks.

6. The method of Claim 1 wherein the step of converting the first digital network to a radio frequency distribution medium comprises the steps of:  
converting the first digital network into a DOCSIS compliant modulated signal.

7. The method of Claim 6 wherein the first digital network is an Ethernet.

8. The method of Claim 1 wherein radio frequency distribution medium carries a DOCSIS compliant signal and wherein the step of converting the radio frequency distribution medium to a secondary digital network comprises the step of converting the DOCSIS compliant signal into a second digital network.

9. The method of Claim 8 wherein the second digital network is an Ethernet.

10. A passenger in-flight entertainment system comprising:  
airborne server that sources data;  
first digital network that receives data from the airborne server;  
cable modem terminator that accepts data from the server by way of the first digital network and modulates a carrier signal according to the data;  
radio frequency distribution subsystem that propagates the carrier signal throughout an aircraft;

cable modem that accepts a carrier signal from the radio frequency distribution system and extracts digital data therefrom; and

secondary digital network that accepts digital data from the cable modem that was extracted from the carrier signal by said cable modem.

11. The passenger in-flight entertainment system of Claim 10 further comprising:

passenger personal electronic device attachment interface that accepts digital data from the secondary digital network and propagates the digital data to personal electronic devices connected thereto.

12. The passenger in-flight entertainment system of Claim 11 wherein the cable modem accepts a network request from a personal electronic device attached to the personal electronic device attachment interface and modulates a request-carrying carrier signal according to the network request and wherein the radio frequency distribution subsystem propagates the request-carrying carrier signal back to the cable modem terminator and wherein the cable modem terminator extracts network requests from the request-carrying carrier signal further comprising:

network address translator that accepts network requests from the cable modem terminator and conforms said request to the address scheme of the first digital network.

13. The passenger in-flight entertainment system of Claim 12 wherein the network address translator comprises:

user registration unit that accepts registration requests from passenger personal electronic devices and maintains a list of personal electronic devices that have registered for off-aircraft services and creates routing directives for each network request received from the cable modem terminator;

address translation unit that accepts routing directives from the user registration unit and translates the address of network requests in order to direct the request to the airborne server if the routing directive indicates that the personal electronic device sourcing the network request has not registered for off-aircraft services and direct the network request to a communications unit if the routing directive indicates that the personal electronic device sourcing the network request has registered for off-aircraft services.

14. The passenger in-flight entertainment system of Claim 10 wherein: entertainment content is stored in the airborne data server and is directed to the first digital network and wherein the entertainment content is received in aircraft integral devices or personal electronic devices attached to one of the secondary digital networks.

15. The passenger in-flight entertainment system of Claim 10 wherein the cable modem terminator comprises a DOCSIS compliant device.

16. The passenger in-flight entertainment system of Claim 15 wherein the first digital network is an Ethernet.

17. The passenger in-flight entertainment system of Claim 10 wherein the modulated carrier signal is a DOCSIS compliant signal and the cable modem is a DOCSIS compliant device.

18. The passenger in-flight entertainment system of Claim 17 wherein the secondary digital network is an Ethernet.

19. A head-end for an in-flight passenger entertainment system comprising:
- airborne server that sources data;
  - first digital network that receives data from the airborne server; and
  - cable modem terminator that accepts data from the server by way of the first digital network and creates a modulated carrier signal according to the data.
20. The head-end of Claim 19 wherein the cable modem terminator is a DOCSIS compliant device.